REMARKS

This paper is responsive to the Office Action dated November 18, 2004. Claims 1-32 were examined. Claims 9 – 32 have been cancelled. New claims 33 – 48 have been added. Claims 1 – 3 have been amended.

Rejections under 35 U.S.C. §112

Claims 2-3, 11-12, 19-20 and 27-28 are rejected to under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11 – 12, 19 – 20, and 27 – 28 are no longer pending. Claims 2 and 3 have been amended.

Rejections under 35 U.S.C. §101

Claims 25-32 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Claims 25 – 32 are no longer pending.

Rejections under 35 U.S.C. §103

Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over 'Optimizing Away C++ Exception Handling' by Schilling (hereinafter "Schilling") in view of 'Effective Null Pointer Check Elimination Utilizing Hardware Trap' by Kawahito et al (hereinafter "Kawahito"). Claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24-32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Schilling in view of Kawahito as applied to claims 1, 9 and 17 above, and further in view of U.S. Patent No. 6,189,141 issued to Benitez et al (hereinafter "Benitez"). Applicant traverses all rejections.

Applicant respectfully traverses the rejections because 1) none of the art of record discloses or suggests eliminating null pointer condition checks with infrequent occurrences of null pointer conditions and 2) the Office relies solely on a generic statement of optimization to support combination of references. The art of record does not disclose specifically eliminating the null pointer condition checks that infrequently encounter null pointer conditions. In fact, the Office Action does not address this particular limitation in the rejections. Schilling does not disclose or suggest any technique for null pointer condition check elimination, and is utilized by

the Office solely for disclosure of table-driven exception handling. The Office rejects Applicant's claims based on combination of table-driven exception handling and Kawahito's null pointer condition check elimination technique. However, Kawahito does not identify null pointer condition checks that infrequently encounter null pointer conditions based on profile feedback. Kawahito iterates over all of the null pointer condition checks using control flow graph analysis (Abstract and sections 3.2 – 4.2). Neither Kawahito nor Schilling discloses or suggests utilizing profile feedback to identify those null pointer condition checks that infrequently encounter null pointer conditions.

The Office attempts to address the utilization of profile feedback with Benitez. Benitez discloses "a hot trace identifier to identify frequently executed traces of instructions" (Abstract). Nothing in Benitez discloses or suggests identifying null pointer condition checks that infrequently encounter null pointer conditions. Frequency of execution of a null pointer condition check does not indicate how frequently the check encounters null pointer conditions. Determining that a null pointer condition check was executed 1000 times provides no insight into how many of those executions encountered a null pointer condition. Furthermore, there is no suggestion or motivation to combine Schilling, Kawahito, and Benitez. "It is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based" (MPEP 2144.03, *citing* In re Zurko, 258 F.3d 1379 (Fed. Cir. 2001). "[A]n assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support" (MPEP 2144.03, citing Id.). The Office attempts to satisfy this requirement with a statement that it would have been obvious to use Benitez's hot trace "because one of ordinary skill in the art would have been motivated to apply the optimizations where they would do the most good." There is no evidentiary support that specifically suggests modifying Kawahito to utilize the hot trace of Benitez. Even if there were a specific suggestion to modify or combine Kawahito with Benitez, the modification or combination would still fail to disclose or suggest particularly eliminating null pointer condition checks that infrequently encounter null pointer conditions.

Neither Schilling, Kawahito, nor Benitez, standing alone or in combination, disclose or suggest any of Applicant's claims. None of the art of record discloses or suggest Applicant's claims.

Conclusion

In summary, claims 1 – 8 and 33 – 48 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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Respectfully submitted,

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